

## CLAIMS

What is claimed is:

1. An acetabular prosthetic comprising:  
a bone engagement surface;  
a first inner integral generally spherical concave bearing surface;  
and  
a locking mechanism configured to couple a second prosthetic implant having a second spherical bearing surface, the second spherical concave bearing surface is configured to substantially surround a head of a femoral component.
2. The acetabular prosthetic according to claim 1 wherein said second prosthetic is selected from a group of a constraining ring, a slotted constraining ring, a bearing insert, and a bearing insert having an integral constraining ring and combinations thereof.
3. The acetabular prosthetic according to claim 1 wherein said first inner integral generally spherical concave bearing surface is a polished metal surface.

4. The acetabular prosthetic according to claim 1 further comprising a peripheral surface, which defines said locking mechanism, and wherein said peripheral surface defines at least one aperture configured to accept a coupling fastener.

5. The acetabular prosthetic according to claim 1 wherein said second prosthetic implant comprises a polymer bearing surface.

6. The acetabular prosthetic according the claim 5 wherein said second prosthetic is a bearing insert.

7. The acetabular prosthetic according to claim 6 wherein said bearing insert comprises an integral constraining ring.

8. The acetabular prosthetic according to claim 7 wherein said bearing insert defines a bearing insert coupling groove configured to accept a locking ring.

9. The acetabular prosthetic according to claim 1 wherein said second prosthetic is a constraining ring.

10. The acetabular prosthetic according to claim 9 wherein said constraining ring includes a hemi-spherical bearing surface.

11. The acetabular prosthetic according to claim 9 wherein said constraining ring defines a constraining ring groove configured to accept a locking ring to couple said constraining ring to said first prosthetic.

12. The acetabular prosthetic according to claim 9 wherein said constraining ring defines a locking flange, said locking flange being configured to mate with said locking mechanism.

13. The acetabular prosthetic according to claim 9 wherein said constraining ring comprises a metal reinforcement ring.

14. An acetabular prosthetic according to claim 9 wherein said constraining ring comprises a restraining lip.

15. The acetabular prosthetic according to claim 9 wherein the constraining ring comprises a plurality of restraining lips.

16. The acetabular prosthetic according to claim 9 wherein the constraining ring comprises an exterior surface which defines a reinforcement accepting groove, said reinforcement accepting groove being configured to retain a reinforcement ring.

17. The acetabular prosthetic according to claim 9 wherein the constraining ring comprises an integrally molded reinforcement structure.

18. The acetabular prosthetic according to claim 17 wherein the reinforcement structure has a C-shaped cross-section.

19. The acetabular prosthetic according to claim 17 wherein the reinforcement structure is bearing insert.

20. The acetabular prosthetic according to claim 9 wherein the constraining ring comprises a coupling plate having a plurality of elastically deformable coupling flanges which are configured to couple to the locking mechanism.

21. The acetabular prosthetic according to claim 1 wherein said first and second bearing surfaces define a generally capsule shaped cavity, said generally capsule shaped cavity is configured to rotatably accept a head of a femoral prosthetic and allow a translation of the head along a predetermined axis.

22. A kit of prosthetic components comprising:

an acetabular prosthetic defining an integral spherical bearing surface and a locking mechanism configured to accept a second prosthetic device ;

at least one second prosthetic device having a partially spherical bearing surface, the partially spherical bearing surface is configured to substantially surround a head of a femoral component; and

a femoral prosthetic.

23. The kit according to claim 22 wherein said second prosthetic device is selected from a group consisting of a constraining ring, a bearing insert, a bearing having an integral constraining ring, and combinations thereof.

24. The kit according to claim 22 further comprising a plurality of femoral prosthetic components.

25. The kit according to claim 22 wherein said second prosthetic device is a constraining ring defining a constraining ring bearing surface and a constraining ring locking mechanism configured to fixably couple said constraining ring to said acetabular prosthetic.

26. The kit according to claim 22 wherein the second prosthetic device is a polymer bearing insert which defines an interior bearing surface and a bearing insert locking mechanism, wherein said bearing insert locking mechanism is configured to lock said polymer bearing insert to said acetabular prosthetic.

27. A method for implanting a medical device comprising:

implanting a first prosthetic having an integral internal bearing surface and a locking mechanism which is configured to fixably accept a second prosthetic having a second bearing surface which substantially surrounds a head portion of a femoral component, to a prepared joint; and

inserting a femoral prosthetic within the integral internal bearing surface of the first prosthetic.

28. The method according to claim 27 further comprising coupling a second prosthetic device to the locking mechanism after the first prosthetic device has been implanted in the prepared joint.

29. The method according to claim 27 further comprising coupling a polymer bearing insert to said locking mechanism.

30. The method according to claim 27 further comprising coupling a constraining ring to said locking mechanism.

31. The method according to claim 28 further comprising coupling a polymer bearing insert having an integral constraining ring to the locking mechanism.

32. The method according to claim 27 further comprising:  
removing the femoral prosthesis from said first prosthetic;  
coupling said second prosthetic to said first prosthetic; and  
inserting the femoral prosthesis into said first and second prosthetics.

33. The method according to claim 32 wherein said second prosthesis is disposed about said femoral implant prior to its coupling to said first prosthesis.

34. An acetabular prosthetic implant comprising:  
a first member having a bone engagement surface and an integral generally spherical first bearing surface, said first member defining a locking mechanism configured to be coupled to a second prosthetic member; and  
a second prosthetic member, coupled to said locking mechanism, said second member defining a second semi-spherical bearing surface, said first and second bearing surfaces defining a generally capsule shaped cavity; and wherein said generally capsule shaped cavity is configured to rotatably accept a

head of a femoral prosthetic and allow the translation of the head along a predetermined axis.

35. The acetabular prosthetic according to claim 34 wherein said integral first bearing surface is hemispherical.

36. The acetabular prosthetic according to claim 34 wherein one of said first and second prosthetic members further defines a generally cylindrical inner bearing surface.

37. The acetabular prosthetic according to claim 36 wherein said generally cylindrical inner bearing surface has a length of about 1 to about 4 mm.

38. A constraining ring for coupling a femoral prosthetic to an acetabular prosthetic, the constraining ring comprising:

a locking mechanism configured to couple the constraining ring to the acetabular cup;

a bearing surface configured to slidably interface with the femoral prosthetic; and

a reinforcement ring integrally molded into the constraining ring.

39. The constraining ring of claim 38 wherein the reinforcement ring has a C-shaped cross-section.



40. The constraining ring of claim 38 wherein the reinforcement structure defines a portion of the bearing surface.

41. A constraining ring for coupling a femoral prosthetic to an acetabular prosthetic, the constraining ring comprising:

a locking mechanism configured to couple the constraining ring to the acetabular cup, said locking mechanism defining a flange member which is configured to be positioned beneath a locking tab defined by the acetabular cup.

42. The constraining ring according to claim 41 wherein the flange member is elastically deformable with respect to the tab.

43. The constraining ring according to claim 41 wherein the constraining ring is configured to be rotatable about an axis to position the flange member beneath the tab.